# MARKETING
# Southern Illinois
# Corn • Wheat • Soybeans

## A report of research

By C. P. Schumaier

Bulletin 595 · UNIVERSITY OF ILLINOIS
AGRICULTURAL EXPERIMENT STATION

# CONTENTS

PAGE

OBJECTIVES OF THIS STUDY . . . . . 3
PROCEDURE AND SOURCE OF DATA . . . . . 3
DESCRIPTION OF THE REGION . . . . . 4
PRODUCTION AND SALES OF GRAIN . . . . . 5
COUNTRY ELEVATOR FIRMS . . . . . 7
Volume of Grain Handled . . . . . 7
Storage Space . . . . . 7
Grain-Handling Equipment . . . . . 10
Other Activities of Grain Firms . . . . . 11
GRAIN PROCUREMENT AND DISPOSITION . . . . . 11
Grain Sales to Elevators . . . . . 11
Grain Sales by Elevators . . . . . 12
Markets for Grain . . . . . 12
Grain Transportation . . . . . 16
PRICING AND SELLING PRACTICES . . . . . 18
Gross Margins . . . . . 18
Truck Premiums . . . . . 19
Grading . . . . . 19
Sales Agencies . . . . . 20
RECENT DEVELOPMENTS IN GRAIN MARKETING . . . . . 20
Extension of Elevator Facilities . . . . . 20
Two New Types of Grain-Merchandising Operations . . . . . 20
Increasing Truck-Barge Operations . . . . . 21
Merchant Trucking of Corn . . . . . 21
SUMMARY . . . . . 22

## Acknowledgment

Grateful acknowledgment is made of the valuable suggestions received from L. J. Norton, Professor of Agricultural Economics at the University of Illinois, during his supervision of the author's doctor's thesis on which this report is based.

Urbana, Illinois October, 1955

Publications in the Bulletin series report the results of investigations made or sponsored by the Experiment Station

# Marketing Southern Illinois Corn, Wheat, and Soybeans

By C. P. Schumaier, Assistant Professor of Agricultural Economics

GRAIN PRODUCTION, particularly of soybeans, has increased so rapidly in southern Illinois that commercial surpluses have appeared in areas where no grain-marketing facilities existed. To cope with this increased production, the grain trade has had to expand. Since no accurate information was available about the position of the grain trade in southern Illinois, this study was inaugurated.

## OBJECTIVES OF THIS STUDY

The objectives of this study were (1) to describe the conditions faced by the grain trade in southern Illinois in 1952 and 1953; (2) to trace the pattern of grain marketing in that region for those two years, particularly as country elevators, storage space, transportation, and markets were involved; (3) to compare wherever possible the southern Illinois grain trade with that of central and northern Illinois; and (4) to indicate the changes taking place in the southern Illinois grain trade.

## PROCEDURE AND SOURCE OF DATA

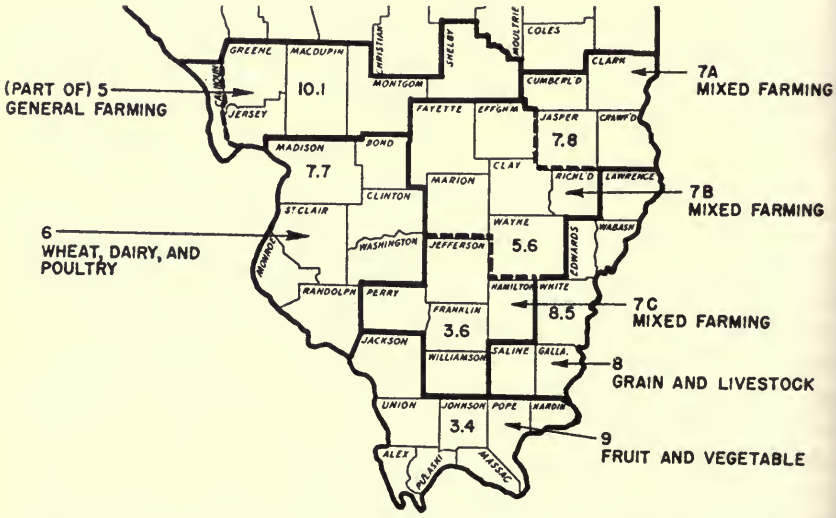
A short questionnaire introducing the study and requesting information on the volume of grain handled in 1952 and 1953 was sent to 210 southern Illinois elevator firms. One hundred and fifty-five of these firms responded, and these responses were stratified according to the seven type-of-farming areas shown in Fig. 1, as well as according to grain storage capacity. The responses were then used to estimate variation in the volume handled in each stratum. Next, an optimum sample of 91 firms, based on variation in volume handled, was selected and interviews arranged with the managers of these firms. During those interviews a longer questionnaire was filled out for all but four of these 91 firms. To complete the sample, two elevator firms and two trucking firms not in the original selection were likewise interviewed and the questionnaire filled out for them as well. The information obtained from this sample was used to estimate the average characteristics of all the 210 elevator firms in southern Illinois.

For the most part then this report is based on information covering the years 1952 and 1953, which was obtained from 89 elevator firms and 2 trucking firms. To analyze changes in crop production and to estimate grain sales, the U.S. Census and reports published by the Illinois Cooperative Crop Reporting Service were used. To describe the soil, topography, and climate of the region, publications issued by the Illinois Agricultural Experiment Station and Extension Service were used.

In 1953, soybean production was reduced by dry weather, so the remarks concerning the demand for soybean storage may not hold under ordinary conditions.

## DESCRIPTION OF THE REGION

The region that is referred to as southern Illinois in this bulletin comprises the 42 counties shown in Fig. 1. For purposes of analysis, these counties were grouped according to type-of-farming areas, except




Type-of-farming areas in southern Illinois and average number of bushels of grain sold per acre of farmland in each area in 1950-1952. Except that Fayette and Effingham counties were included in Area 7b instead of Area 6, this map is based on *Types of farming in Illinois: an analysis of differences by areas*, by H. C. M. Case and K. H. Myers, Illinois Agricultural Experiment Station Bulletin 403, page 2 (1934).

(Fig. 1)

that Fayette and Effingham counties, which are usually included in Area 6, were considered as part of Area 7b, because their grain production and marketing characteristics were similar to those of that area.

The region under study includes most of the light-colored soils in Illinois. Except for those in the major river bottoms, these soils have low productivity and a very tight subsoil. They respond very well to treatment, however, and while, for example, treated light soils in southern Illinois cannot produce corn yields equal to those produced on treated dark soils in central Illinois, it was demonstrated on southern Illinois experiment fields over the period 1946-1950 that corn yields well above the 1949-1953 state average of 54 bushels an acre can be produced on them.

Contrary to popular belief, much of the land in southern Illinois is level. The only extremely rough part is the group of seven unglaciated counties at the southern tip of the state. Twenty-one of the 42 counties in the region have half or more of their land in the 0-2 percent slope class. Grain production on this level land can be increased by planting more acreage to grain and by applying more fertilizers to areas already in grain.

The climate is also favorable for the production of corn, wheat, and soybeans, except that during the growing season rainfall is slightly less dependable than in central and northern Illinois.

## PRODUCTION AND SALES OF GRAIN

The most important addition to grain production in the region was soybeans. Before World War II, commercial production of this grain was limited to a few northern counties of the region, and it was not until after the war that soybean production became widespread throughout southern Illinois. Average soybean production for the three years 1930, 1935, and 1940 was 2,787,000 bushels. For the three years 1950, 1951, 1952 the average production had risen to 30,585,000 bushels, or approximately one-third of the total soybean crop raised in Illinois (Table 1).

Corn production virtually doubled during the same years, increasing from 44,819,000 bushels to 84,565,000 bushels, or approximately 18 percent of the total corn crop raised in Illinois (Table 1). Wheat production increased only slightly, rising from 15,026,000 bushels to 15,844,000 bushels, but this amount continued to constitute approximately 46 percent of the total Illinois wheat crop (Table 1).

Table 1. — Southern Illinois Grain Production and Estimated Sales by Type-of-Farming Areas, Average of 1930, 1935, and 1940 Compared With Average of 1950-1952.[a]

(In thousands of bushels)

| | Area 5 | | Area 6 | | Area 7a | | Area 7b | | Area 7c | | Area 8 | | Area 9 | | Region | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 | 1930, '35, '40 | 1950-1952 |
| **Production** | | | | | | | | | | | | | | | | |
| Corn | 12,999 | 23,955 | 8,514 | 15,018 | 5,214 | 9,628 | 5,491 | 12,737 | 2,981 | 6,104 | 5,415 | 11,759 | 4,205 | 5,364 | 44,819 | 84,565 |
| Soybeans | 1,894 | 8,571 | 186 | 6,128 | 199 | 4,219 | 300 | 5,800 | 34 | 1,903 | 134 | 2,231 | 40 | 1,733 | 2,787 | 30,585 |
| Wheat | 3,301 | 3,876 | 7,257 | 6,299 | 551 | 1,136 | 863 | 1,340 | 751 | 1,037 | 1,469 | 1,541 | 834 | 615 | 15,026 | 15,844 |
| Total | 18,194 | 36,402 | 15,957 | 27,445 | 5,964 | 14,983 | 6,654 | 19,877 | 3,766 | 9,044 | 7,018 | 15,531 | 5,079 | 7,712 | 62,632 | 130,994 |
| **Sales** | | | | | | | | | | | | | | | | |
| Corn | ..... | 8,863 | ..... | 4,505 | ..... | 2,985 | ..... | 3,311 | ..... | 1,282 | ..... | 5,527 | ..... | 1,770 | ..... | 28,243 |
| Soybeans | ..... | 8,056 | ..... | 5,761 | ..... | 3,965 | ..... | 5,452 | ..... | 1,789 | ..... | 2,098 | ..... | 1,628 | ..... | 28,749 |
| Wheat | ..... | 3,527 | ..... | 5,356 | ..... | 920 | ..... | 1,206 | ..... | 819 | ..... | 1,310 | ..... | 517 | ..... | 13,655 |
| Total | ..... | 20,446 | ..... | 15,622 | ..... | 7,870 | ..... | 9,969 | ..... | 3,890 | ..... | 8,935 | ..... | 3,915 | ..... | 70,647 |

[a] Source: Illinois Cooperative Crop Reporting Service.

Before 1940 there was an estimated annual surplus of 20 million bushels of grain in southern Illinois; by 1950-1952, this annual surplus rose to 70 million bushels (Table 1). Despite these great increases in grain production, the average sales per acre of farmland was still low in many areas of the region. The average of 1950, 1951, and 1952 shows that the range was from 3.4 bushels an acre in Area 9 to 10.1 bushels an acre in Area 5 (Fig. 1) — a marked contrast to the grain-producing counties of east-central Illinois that ordinarily have sales ranging from 25 to 30 bushels an acre.

## COUNTRY ELEVATOR FIRMS

In 1953, 210 known firms operated about 269 country elevators in the region. The only counties that had no elevators were Calhoun, Hardin, Johnson, and Williamson. In addition to these elevators, at least four truckers bought grain (principally corn) directly from farmers, but these truckers owned no receiving stations.

### Volume of grain handled

The median volume handled by these 210 elevator firms in 1952 and 1953 was 276,000 and 228,000 bushels respectively. The average handled by these firms was 317,000 bushels in 1952 and 292,000 bushels in 1953. The data reported in a 1951 study[1] of country elevators throughout the state, although not intended to be based on a representative sample, indicate that the average volume of grain handled by southern Illinois elevators was considerably less than that handled by central and northern Illinois elevators.

### Storage space

The total storage space available in southern Illinois elevators in 1953 amounted to 12 million bushels (Table 2). Areas 7a, 7b, 7c, and 8 had the highest volume of grain marketed per bushel of storage space — from 7.3 to 10.2 — a contrast to Areas 6 and 9 which had the lowest such volume, from 3.7 to 3.8 (Table 2).

**Elevators licensed as warehouses.** An estimated 4,984,000 of the 12,071,000 bushels of elevator storage space was licensed for warehousing in 1953, or about 40 percent of the total space (Table 3).

[1] Mutti, R. J., Schumaier, C. P., and Stice, L. F. Business analysis of country grain elevators in Illinois, 1949-1950, page iii. Univ. Ill. Col. Agr. Mimeo. AE2821. 1951.

**Table 2. — Volume of Grain Handled by Southern Illinois Elevators in Relation to Total Storage Space, by Type-of-Farming Areas**

(Average of 1952-1953)

| | Area 5 | Area 6 | Area 7a | Area 7b | Area 7c | Area 8 | Area 9 | Region |
|---|---|---|---|---|---|---|---|---|
| Estimated total elevator storage space (thousands of bushels) | 2,731 | 4,894[a] | 682 | 1,168 | 203 | 1,243 | 1,150 | 12,071 |
| Volume of grain handled (thousands of bushels) | 15,221 | 18,571 | 6,340 | 8,547 | 2,073 | 9,872 | 4,206 | 64,830 |
| Volume handled per bushel of elevator storage space (bushels) | 5.6 | 3.8 | 9.3 | 7.3 | 10.2 | 7.9 | 3.7 | 5.4 |

[a] Includes only one-fourth (750,000 bushels) of the total storage space at the three large flour mills that buy directly from farmers.

Most of this space, however, was concentrated in Area 5 (all counties), in Area 6 (Madison, Monroe, and St. Clair counties), and in Area 9 (at Cairo in Alexander county). In contrast to these three areas that had 25 elevators licensed as warehouses, the remaining areas had fewer than 15. Area 7c was the only area without a licensed warehouse.

**Table 3. — Storage Space Actually and Potentially Available in Southern Illinois Elevators, by Type-of-Farming Areas, 1952-1953**

(In thousands of bushels)

| | Area 5 | Area 6 | Area 7a | Area 7b | Area 7c | Area 8 | Area 9 | Region |
|---|---|---|---|---|---|---|---|---|
| Estimated total storage space (average of 1952-1953) | 2,731 | 4,894[a] | 682 | 1,168 | 203 | 1,243 | 1,150 | 12,071 |
| Estimated licensed storage space (average of 1952-1953) | 1,450 | 2,250 | 240 | 115 | 0 | 145 | 784 | 4,984 |
| Public storage space actually available (average of 1952-1953) | | | | | | | | |
| Any grain | 500 | 1,000 | 178 | 25 | 0 | 25 | 425 | 2,153 |
| Soybeans only | 120 | 100 | 0 | 0 | 0 | 0 | 50 | 270 |
| Total | 620 | 1,100 | 178 | 25 | 0 | 25 | 475 | 2,423 |
| *Percent of total available storage space in region* | *25.6* | *45.4* | *7.4* | *1.0* | *0* | *1.0* | *19.6* | *100.0* |
| Bushels stored in 1952 | | | | | | | | |
| For farmers | 290 | 500 | 74 | 8 | 0 | 25 | 225 | 1,122 |
| For processors | 225 | 180 | 66 | 212 | 0 | 0 | 80 | 763 |
| For CCC | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 12 |
| For own account | 300 | 1,350 | 44 | 128 | 0 | 150 | 95 | 2,067 |
| Total | 815 | 2,030 | 196 | 348 | 0 | 175 | 400 | 3,964 |
| Bushels stored in 1953[b] | | | | | | | | |
| For farmers | 325 | 900 | 93 | 8 | 0 | 25 | 225 | 1,576 |
| For CCC | 0 | 110 | 0 | 0 | 0 | 0 | 75 | 185 |
| For own account | 250 | 1,500 | 30 | 128 | 0 | 150 | 70 | 2,128 |
| Total | 575 | 2,510 | 123 | 136 | 0 | 175 | 370 | 3,889 |
| Storage space potentially available | | | | | | | | |
| Any grain | 800 | 1,250 | 195 | 373 | 0 | 350 | 800 | 3,768 |
| Soybeans only | 325 | 200 | 0 | 55 | 20 | 0 | 100 | 700 |
| Total | 1,125 | 1,450 | 195 | 428 | 20 | 350 | 900 | 4,468 |
| *Percent of total storage space in region* | *25.2* | *32.5* | *4.4* | *9.6* | *.4* | *7.8* | *20.1* | *100.0* |

[a] Includes only one-fourth (750,000 bushels) of the total storage at the three large flour mills that buy directly from farmers.

[b] In 1953 processors used no storage space.

**Public storage space available.** An average of about 2,500,000 bushels of space was available for public storage in 1952-1953 (Table 3). Outside Madison, Monroe, and St. Clair counties (Area 6) and Cairo in Alexander county (Area 9), public storage space was available only for soybeans, since other elevators refused to store wheat on account of the price-support storage regulations and the fact that wheat is sometimes hard to keep in condition.[1]

About 70 percent of the available public storage space was concentrated in Areas 5 and 6, where about 50 percent of the total grain produced in the region was marketed. Only about 10 percent was available in Areas 7a, 7b, 7c, and 8, where 41 percent of the grain produced in the region was marketed.

In 1952 farmers used less than half the public storage space available; in 1953, they used about three-fifths of that space. In areas where the available public storage space was low in relation to the amount of grain marketed (Areas 7a, 7b, 7c, and 8), the rate of occupancy was just under half in 1952 (47 percent) and just over half in 1953 (55 percent). Although these figures would indicate that the demand in these areas for storage space was more than adequately met, it must be remembered that the space was restricted largely to soybeans, and that 1952 and 1953 were poor years for soybean storage because the 1952 price for soybeans declined during the season and the 1953 crop suffered a drouth.

**Relative demand for storage space.** In 1952 elevator operators allocated more space to processors and to their own accounts than to farmers. In 1953, when processors demanded no storage space, the space allotted to farmers increased considerably. For the region, storage amounted to slightly less than 4 million bushels in 1952 and 1953 (Table 3). Much of this storage was for short intervals, so the rate of occupancy was low. The large volume of storage for elevators' own accounts in Area 6 consisted largely of wheat accumulated by the large flour mills operating in that area.

**Adequacy of storage facilities.** Judged by proper space arrangement and by equipment necessary for storing and caring for grain, only 60 of the 210 firms had adequate storage facilities. Of these 60 firms, 22 had less storage capacity than 50,000 bushels; 15 had a storage capacity ranging from 50,000 to 99,000 bushels; and 23 had 100,000 bushels or more.

[1] The data in Table 3 show the space that actually could be made available for storing wheat, not the space that was in fact made available.

Of the 150 remaining firms, many were able to store soybeans of normal quality, and wheat if it was dry and of good quality, but they were not equipped to detect deterioration in grain or to blend and condition grain.

**Storage space potentially available.** Elevator managers estimated that 4,468,000 bushels of space could be made available for storing grain, 3,768,000 to store wheat, corn, and soybeans, and 700,000 to store soybeans alone (Table 3). These figures represent 2,045,000 more bushels of public storage space than was available in 1953.

Assuming that of the 60 firms having adequate facilities for storing grain, those with less than a 50,000-bushel capacity could each store an average of 15,000 bushels, those with a capacity between 50,000 and 99,000 could each store 40,000 bushels,[1] and those with over a 100,000-bushel capacity could each store 125,000 bushels, a storage space of 3,805,000 bushels could be made available. This estimate is fairly close to that made by the elevator managers. While it is hardly likely that the remaining 150 firms could make more space available, it is more than likely that more elevators will be built in the region.

The reason most managers gave for not offering more space for grain storage was that they needed the space for their own merchandising operations. Having enough storage space to accumulate harvest receipts is imperative in a region where grain receipts are seasonal and there is a shortage of boxcars.

## Grain-handling equipment

Farmers in some communities were very dissatisfied with the small grain-handling capacity of elevators because they had to wait a long time to unload. The reason that elevators in these communities did not install large-capacity grain-handling equipment was that the potential volume in their trade area did not justify the cost. The average volume of grain handled by southern Illinois elevator firms in 1952 and 1953 was only 304,000 bushels, with many elevators having volumes of less than 150,000 bushels.

Some idea of the capacity of grain-handling equipment used by southern Illinois elevators may be gained from the size of their scales and the capacity of their legs and corn shellers. About 40 percent had modern, long-platform scales; about 20 percent had short-platform truck scales; and about 40 percent had either obsolete wagon or hopper

[1] Elevators in this group as well as those in the first group used a fairly large percentage of their storage space for merchandising operations.

scales. About 33 percent had legs with an hourly capacity of 2,500 bushels or more, and about 66 percent had legs with an hourly capacity of less than 2,500 bushels.

Since almost all corn grown in southern Illinois is sold as ear corn, about 80 percent of the firms had shellers. About 40 percent of these shellers had capacities of 1,000 or more bushels per hour, and 60 percent had capacities of less than 1,000 bushels per hour.

To install a large-capacity leg and corn sheller and a heavy-duty scale, as well as to have the storage space necessary to use this equipment effectively, an elevator usually needs about one-third more than the median volume reported by southern Illinois elevator operators in 1952 and 1953.

### Other activities of grain firms

Grain firms, to help defray overhead expenses when grain receipts were low, usually engaged in service and merchandise sidelines. Some also undertook the manufacturing of feed, the milling of flour, and the processing of soybeans. Less than 10 percent of southern Illinois elevator firms, in fact, handled grain exclusively. About 50 percent had grinding and mixing equipment, and about 25 percent had seed-cleaning equipment. Another 6 percent were engaged in spreading lime and fertilizer.

In addition to these service sidelines, 85 percent of the elevators had merchandise sidelines. The volume of merchandise handled ranged from $6,000 to over $500,000 and in 1953 averaged $135,000. Compared with 1949 data on elevators in central and northern Illinois, indications are that on the average southern Illinois elevators handled only a few thousand dollars less merchandise volume.[1]

Four large flour mills and only nine of the thirty-five small local flour mills were operating in the region in 1952 and 1953 — evidence that milling in the small local mills was declining rapidly.

## GRAIN PROCUREMENT AND DISPOSITION

### Grain sales to elevators

Sales of all three grains to elevators were considerably heavier at harvest time in southern Illinois than in the state as a whole. With the exception of corn, the amount of grain stored on southern Illinois farms in 1952 and 1953 was negligible.

[1] Mutti, R. J., Schumaier, C. P., and Stice, L. F. Business analysis of country grain elevators in Illinois, 1949-1950, page iii. Univ. Ill. Col. Agr. Mimeo. AE2821. 1951.

To farmers, there are advantages as well as disadvantages to selling grain at harvest. The advantages are that farmers are relieved of the costs and risks of storage, the risks of insect damage and spoilage being greater in southern Illinois than elsewhere in the state, and the costs higher, since (with the exceptions of Areas 5 and 6) most farmers would first have to build bins and cribs. The chief disadvantage is that grain usually sells at lower prices during harvest than at other times because the harvest price is discounted for normal storage and carrying charges. In recent years, the harvest price has become weaker because of the difficulty encountered by grain firms in obtaining enough transportation and terminal-elevator storage space during the short harvest season.

## Grain sales by elevators

Less than 15 percent of the grain sold to elevators in 1952 and 1953 was stored longer than was needed to obtain transportation. Elevators shipped grain almost as fast as they bought it, and their bins were usually cleared within 2 weeks after the end of harvest runs. The small percentage of grain stored for a longer period consisted of price-support wheat and wheat intended for milling, as well as soybeans held for processors and farmers. Very few elevators made any attempt to keep storage space occupied with hedged inventories.

## Markets for grain

The amount of grain going to different markets varies considerably from year to year, largely because of changes in regional supplies. Tables 4, 5, and 6 show the major markets for southern Illinois corn, wheat, and soybeans in 1952 and 1953, and the relative importance of those markets.

**Markets for corn.** In general, corn sold by southern Illinois elevators moved to (1) St. Louis for use there as well as for reshipment to the South and Southeast, and (2) the South and Southeast directly. More specifically, about 65 percent of the corn in Areas 5 and 6 was moved to St. Louis. From Area 5 an additional 20 percent was sent to Decatur, and in Area 6 an additional 20 percent was used by the elevators for feed manufacturing and retail sales (Table 4).

Areas 7a and 7b had the most varied markets. In addition to truckers at the elevators, each of the following markets bought 10 to 20 percent of the corn marketed in these areas: Springfield, Decatur, St. Louis, Indianapolis, Louisville, and points on the eastern seaboard.

## Table 4. — Principal Markets for Southern Illinois Corn, by Type-of-Farming Areas, 1952-1953

(In percentage)

| Market | Area 5 | | Area 6 | | Area 7a | | Area 7b | | Area 7c | | Area 8 | | Area 9 | | Region | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 |
| Corn receipts (*thousands of bushels*) | 7,740 | 6,720 | 5,320 | 4,379 | 2,549 | 2,221 | 4,006 | 2,448 | 645 | 484 | 5,248 | 5,001 | 1,633 | 2,276 | 27,141 | 23,529 |
| Chicago | .2 | .3 | 4.8 | 3.0 | 7.1 | 2.2 | .3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | .8 |
| Springfield | .2 | 0 | 0 | 0 | 0 | 0 | 10.7 | 14.5 | 0 | 0 | 6.8 | 5.1 | 0 | 0 | 3.0 | 2.6 |
| Decatur | 20.2 | 17.6 | 2.2 | 1.6 | 12.1 | 10.6 | 4.8 | 17.5 | .5 | 0 | 2.0 | 2.2 | 0 | 0 | 8.4 | 8.6 |
| St. Louis | 68.2 | 68.6 | 55.1 | 65.3 | 14.3 | 19.4 | 14.4 | 13.9 | 25.4 | 20.4 | 4.7 | 5.7 | 38.5 | 24.4 | 37.5 | 39.0 |
| Indianapolis | 2.0 | .5 | 2.7 | 0 | 16.7 | 17.0 | 2.3 | 3.4 | 0 | 0 | 1.0 | .5 | 0 | 0 | 3.2 | 2.2 |
| Terre Haute | 0 | 0 | 0 | 0 | 3.5 | 3.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | .3 | .4 |
| Louisville | .7 | .3 | 0 | 0 | 16.5 | 16.9 | 12.7 | 3.0 | 14.1 | 10.2 | 12.9 | 17.2 | 0 | 0 | 6.5 | 5.9 |
| Southern and southeastern points except Louisville | 0 | 0 | 0 | 0 | 5.0 | 3.0 | .2 | .1 | 24.7 | 23.9 | 21.9 | 20.9 | 13.9 | 41.3 | 6.2 | 9.2 |
| Eastern seaboard | .4 | 0 | .7 | 0 | 2.0 | .9 | 29.5 | 11.1 | 0 | 0 | 9.0 | 4.5 | 0 | 0 | 6.5 | 2.2 |
| Trucker buyers | 4.1 | 4.8 | 13.9 | 9.0 | 13.1 | 15.4 | 20.1 | 28.9 | 27.9 | 33.5 | 23.4 | 28.8 | 35.5 | 27.7 | 15.4 | 17.0 |
| Sold and processed locally | 3.3 | 3.6 | 18.6 | 21.0 | 6.0 | 6.6 | 3.3 | 5.3 | 6.7 | 7.4 | 2.5 | 2.5 | 12.1 | 6.6 | 7.0 | 7.4 |
| Illinois processors at points not already enumerated | .7 | 4.3 | .1 | .1 | 2.3 | 2.8 | .9 | .9 | .7 | 4.6 | 12.9 | 12.6 | 0 | 0 | 3.1 | 4.4 |
| Unknown | 0 | 0 | 1.9 | 0 | 1.4 | 1.3 | .8 | 1.4 | 0 | 0 | 2.9 | 0 | 0 | 0 | 1.2 | .3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

## Table 5. — Principal Markets for Southern Illinois Wheat, by Type-of-Farming Areas, 1952-1953

(In percentage)

| Market | Area 5 | | Area 6 | | Area 7a | | Area 7b | | Area 7c | | Area 8 | | Area 9 | | Region | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 |
| Wheat receipts (*thousands of bushels*) | 3,552 | 4,442 | 6,877 | 8,584 | 948 | 1,754 | 1,466 | 2,228 | 656 | 925 | 1,987 | 2,457 | 703 | 1,088 | 16,189 | 21,478 |
| Chicago | .2 | .2 | 1.6 | 3.8 | 48.8 | 47.8 | 4.1 | 1.9 | 13.2 | 5.0 | 3.2 | 10.0 | 8.2 | 6.7 | 5.2 | 7.4 |
| Springfield | 2.0 | 2.7 | 2.7 | 3.5 | 0 | 0 | 34.8 | 29.2 | 0 | 0 | 0 | 0 | 0 | 0 | 4.7 | 5.0 |
| Decatur | 21.2 | 24.1 | 0 | 0 | 8.4 | 6.0 | 9.2 | 5.1 | 0 | 0 | 0 | 1.1 | 0 | 0 | 6.0 | 6.1 |
| St. Louis | 76.5 | 72.9 | 41.3 | 64.3 | 17.6 | 32.6 | 26.4 | 36.1 | 43.5 | 67.4 | 9.7 | 11.0 | 74.0 | 82.6 | 43.9 | 55.5 |
| Illinois mills | .1 | .1 | 2.1 | 2.4 | 2.0 | 0 | 7.9 | 6.5 | 4.3 | 6.2 | 0 | 0 | 0 | 3.6 | 1.9 | 2.1 |
| Missouri mills | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | .6 | 0 | 0 | 0 | 0 | 7.1 | 0 | .5 | .1 |
| Evansville | 0 | 0 | 28.2 | 0 | 1.3 | .1 | 10.0 | 4.4 | 6.7 | 2.9 | 62.3 | 56.7 | 0 | 0 | 20.9 | 7.1 |
| Terre Haute | 0 | 0 | 0 | 0 | 12.0 | 6.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | .7 | .5 |
| Indianapolis | 0 | 0 | 0 | 0 | 0 | 1.3 | .9 | 1.0 | 0 | 0 | .2 | 1.1 | 0 | 0 | .1 | .3 |
| Louisville | 0 | 0 | .6 | 0 | 0 | 0 | 0 | 2.0 | 32.3 | 18.5 | 22.4 | 18.7 | 0 | 0 | 4.3 | 3.1 |
| Southern mills | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 1.4 | 0 | 0 | .2 | .2 |
| Milled by the buyer | 0 | 0 | 21.0 | 17.6 | 4.5 | 1.6 | 0 | 0 | 0 | 0 | 0 | 0 | 8.0 | 3.3 | 9.6 | 7.3 |
| Export eastern seaboard | 0 | 0 | 0 | 0 | 0 | 0 | 4.8 | 10.9 | 0 | 0 | 0 | 0 | 0 | 0 | .4 | 1.1 |
| Unknown | 0 | 0 | 2.5 | 8.4 | 5.4 | 4.6 | 0 | 2.3 | 0 | 0 | .5 | 0 | 2.7 | 3.8 | 1.6 | 4.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

## Table 6. — Principal Markets for Southern Illinois Soybeans, by Type-of-Farming Areas, 1952-1953

(In percentage)

| Market | Area 5 | | Area 6 | | Area 7a | | Area 7b | | Area 7c | | Area 8 | | Area 9 | | Region | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 |
| Soybean receipts (*thousands of bushels*) | 4,634 | 3,353 | 7,744 | 4,237 | 2,781 | 2,426 | 4,044 | 2,902 | 835 | 601 | 2,800 | 2,253 | 1,506 | 1,207 | 24,344 | 16,979 |
| Chicago | .9 | 0 | 2.1 | 2.9 | 17.9 | 18.7 | 5.1 | 4.2 | 3.8 | 6.1 | 4.7 | 5.3 | 0 | 0 | 4.4 | 5.0 |
| Springfield | 6.4 | 1.3 | 4.0 | 5.7 | 0 | 0 | 2.5 | 2.2 | 0 | 0 | 4.7 | 3.6 | 0 | 0 | 3.5 | 2.5 |
| Decatur | 62.8 | 72.1 | 54.1 | 51.3 | 59.9 | 56.7 | 67.3 | 58.2 | 78.5 | 68.7 | 41.5 | 50.2 | 64.1 | 69.4 | 58.6 | 59.1 |
| Other central Illinois processors | 22.6 | 22.3 | 15.7 | 10.8 | 10.8 | 10.9 | 15.1 | 20.9 | 8.1 | 13.4 | 38.7 | 33.3 | 9.6 | 17.6 | 18.4 | 18.4 |
| Southern Illinois processors | .4 | 0 | 6.1 | 5.8 | .3 | 0 | .5 | .6 | 0 | 0 | 0 | 0 | 8.3 | 0 | 2.6 | 1.6 |
| St. Louis | 1.0 | 3.4 | 7.3 | 12.2 | 1.6 | .1 | 2.9 | 2.1 | 5.4 | 10.5 | 0 | 0 | 13.4 | 8.8 | 4.2 | 5.1 |
| Indianapolis | 0 | 0 | 4.9 | 5.2 | 6.7 | 10.2 | 1.0 | 7.5 | .6 | 0 | 10.4 | 7.6 | 0 | 0 | 3.7 | 5.0 |
| Louisville | .2 | 0 | .4 | 1.2 | .5 | .3 | 3.4 | 2.0 | 1.4 | 0 | 0 | 0 | 0 | 0 | .8 | .7 |
| Eastern points (except Indianapolis) | 0 | 0 | .4 | .7 | .1 | .2 | .2 | .2 | .4 | 1.3 | 0 | 0 | 4.6 | 3.9 | .5 | .6 |
| Western points | 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | .3 | .3 | (*) |
| Southern points (except Louisville) | 0 | 0 | .1 | 0 | 0 | 0 | 0 | 0 | 1.8 | 0 | 0 | 0 | 0 | 0 | .1 | 0 |
| Unknown | 4.2 | .9 | 4.9 | 4.2 | 2.2 | 2.9 | 2.0 | 2.1 | 0 | 0 | 0 | 0 | 0 | 0 | 2.9 | 2.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* Less than 0.1 percent.

Except for Area 6, less than 10 percent marketed in each area was sold or used locally.

**Markets for wheat.** In 1952 and 1953, St. Louis was the most important market for southern Illinois wheat: 44 percent went to or through St. Louis in 1952; 56 percent in 1953 (Table 5). If data for both these years are combined, St. Louis was also the most important market for every area in the region except Areas 7a and 8; but even from Area 7a Chicago was the only market receiving more wheat than St. Louis, and from Area 8 only Evansville and Louisville received more wheat than St. Louis.

In Area 6 — the only area in which milling was important — about one-fifth of the wheat bought from farmers was milled by the buyer.

**Markets for soybeans.** Most of the soybeans grown in southern Illinois were shipped to central Illinois, the focal point being Decatur where, with the exception of Area 8 in 1952, more than half the soybeans from each area was sent (Table 6).

## Grain transportation

The bulk of southern Illinois wheat and soybeans, as well as a large part of the harvest runs of corn, was shipped out of the region by rail. Wheat and soybeans were trucked in quantity only as far as 60 to 70 miles of St. Louis; a smaller quantity was trucked into Decatur. In contrast, almost half the corn marketed in the region was moved by truck, and each area had a substantial proportion of its corn shipped that way (Table 7).

The corn trucked out of southern Illinois went in two different directions, depending upon the area involved. From Areas 5 and 6, elevators trucked corn principally to terminal elevators in St. Louis, but merchant truckers, hauling produce, lumber, and other freight into St. Louis, also picked up some corn from country elevators in Area 6 (Monroe, Randolph, and St. Clair counties south of St. Louis) for a backhaul to the South. In other areas, corn was sold largely to truckers at the elevators for shipment to Louisville, Nashville, and other southern points.

Railroads have little competition for soybeans and wheat going into domestic use because they grant milling-in-transit privileges to processors. But for corn and wheat intended for export, they have to compete with barges and have established special rates on grains going to Gulf ports.

## Table 7. — Percent of Southern Illinois Corn, Wheat, and Soybeans Shipped by Truck and Rail in 1952-1953[a]

(By type-of-farming areas)

| | Area 5 | | Area 6 | | Area 7a | | Area 7b | | Area 7c | | Area 8 | | Area 9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 | 1952 | 1953 |
| **Corn** | | | | | | | | | | | | | | |
| Rail | 47.0 | 35.2 | 33.5 | 17.4 | 48.8 | 47.6 | 76.1 | 64.6 | 53.9 | 37.6 | 59.3 | 47.7 | 52.4 | 65.7 |
| Truck | 49.7 | 61.2 | 47.9 | 61.6 | 45.2 | 45.8 | 20.6 | 30.1 | 39.2 | 55.0 | 38.2[b] | 49.8[b] | 35.5 | 27.7 |
| **Wheat** | | | | | | | | | | | | | | |
| Rail | 76.6 | 68.1 | 67.4 | 64.5 | 77.7 | 85.9 | 95.5 | 96.3 | 100.0 | 99.7 | 94.9 | 95.4 | 92.0 | 93.1 |
| Truck | 23.4 | 31.9 | 11.6 | 17.9 | 17.8 | 12.5 | 4.5 | 3.7 | 0 | .3 | 5.1 | 4.6 | 0 | 3.6 |
| **Soybeans** | | | | | | | | | | | | | | |
| Rail | 82.6 | 80.0 | 82.9 | 76.8 | 88.7 | 91.0 | 99.1 | 98.8 | 99.2 | 99.5 | 100.0 | 100.0 | 99.3 | 99.8 |
| Truck | 17.4 | 20.0 | 11.8 | 18.0 | 11.3 | 9.0 | .4 | .6 | .8 | .5 | 0 | 0 | .7 | .2 |

[a] Total for some areas is less than 100 percent because some grain was used or processed by buyers.
[b] Includes corn trucked to barges on the Ohio river, 11.6 percent in 1952 and 19.4 percent in 1953 of the area total.

If there were no other costs except trucking, barges could compete with railroads out to points where inbound trucking charges equal the difference in the barge and railroad charges to New Orleans. In 1953, barge charges on grain from St. Louis to New Orleans were 18.5 cents per hundred pounds (11.1 cents per bushel of wheat and 10.36 cents per bushel of corn) less than railroad charges from most southern Illinois points to New Orleans. Such additional costs as weighing, dumping, and elevating at the barge terminals limited the distance for extensive trucking of grain to a radius of 60 to 70 miles from St. Louis, where trucking charges were 6 to 7 cents per bushel.

In 1953 railroad charges on corn from points in southern Illinois to Nashville, Tennessee, and to Atlanta, Georgia, were about 26 and 39 cents a bushel respectively. In the same year, barge charges from St. Louis to Memphis and rail proportional beyond were about 21 and 27 cents a bushel to Nashville and Atlanta respectively. This rate structure permitted truck shipments to St. Louis, where the corn could be barged to Memphis, then shipped by rail to points beyond.

In 1953 truckers hauling corn directly from southeastern counties in southern Illinois took a margin of 12 to 16 cents a bushel to Louisville, Kentucky, and 16 to 30 cents a bushel to Nashville, Tennessee. Truckers will sometimes operate on an even lower margin in order to maintain their trade. There were truckers, for example, who hauled corn to Nashville on a margin as low as 10 cents a bushel. But the time truckers operate on such a low margin is short, for if the margin does not widen, they are forced to seek other employment.

Truck receipts of corn at St. Louis mounted rapidly between 1948 and 1953. According to reports issued by the St. Louis Merchants' Exchange, truck corn receipts at St. Louis rose from 3,469,000 bushels in 1948 to 15,496,000 bushels in 1953. According to the same source, combined truck wheat and soybean receipts at St. Louis, both of which depend on the export trade at New Orleans, averaged only about half those for corn in 1951, 1952, and 1953.

## PRICING AND SELLING PRACTICES

### Gross margins

Gross margins (the difference between bid to farmer and elevator selling price) on all three grains tended to increase from north to south in the region, as indicated by the 1952-1953 average of each type-of-farming area given below. (Because in Area 8 there was a

large difference in margins for corn during two periods, the margin for each period is given.)

| | *Corn* | *Wheat* | *Soybeans* |
|---|---|---|---|
| Area 5 | 5 | 6 | 5 |
| Area 6 | 6 | 7 | 8 |
| Area 7a | 8 | 8 | 7.5 |
| Area 7b | 7 | 8.5 | 8.5 |
| Area 7c | 8.5 | 8 | 8 |
| Area 8 | 10 (Sept.-Dec.)<br>3 (Jan.-June) | 8 | 9 |
| Area 9 | 10 | 11 | 10.5 |

The only exception to this tendency for margins to increase from north to south was the Wabash valley in Area 8. Here, because a few elevators had access to barges, those elevators that had no such transportation reduced their margins to 3 cents or less after January 1 of 1952 and 1953. According to elevator managers, this situation existed even earlier.

## Truck premiums

From January until the time the old crop was sold, merchant truckers set the price of corn for much of the region. The premium that truckers paid over the track bid depended upon two factors, the demand in the South and Southeast and the location of the elevators selling corn. The amount of premium elevators received from trucks over the track bid ranged from 0 to 2 cents a bushel in Area 5, to 10 cents a bushel in Areas 8 and 9. Elevators that sold only an occasional load of corn to trucks usually took a wider margin of 1 to 2 cents on truck corn, but elevators that sold regularly to trucks based their price to farmers on the truck bid and took the margin prevailing in their area.

It should be pointed out that the financing of truck corn is difficult for truckers, unless they are rated in Dun and Bradstreet. Truckers usually have to pay cash until their financial status has been investigated by the elevator operators with whom they deal.

## Grading

As a group, southern Illinois elevators graded grain very loosely, though most of them had moisture-testing equipment, as well as equipment for determining test weight and foreign-material content. Corn was usually graded on the basis of moisture content; wheat on the basis of test weight, garlic, and moisture content. Weevilly or dirty wheat was refused. All but a few elevators and mills that bought on a

cleaned basis purchased soybeans principally on the basis of foreign material present, but grading was usually so liberal that elevator operators lost part of their margin because processors' deductions from the elevators for foreign material exceeded the elevators' deductions from farmers.

### Sales agencies

Most southern Illinois rail grain was sold on contract through carlot dealers in St. Louis or in central Illinois. Some truck grain delivered at St. Louis was also shipped on contract with brokers, but the majority of truck grain there was sold directly to terminal elevators. Elevators in the far southeastern counties of Area 8 made more direct sales to processors than elevators in any other area.

## RECENT DEVELOPMENTS IN GRAIN MARKETING

### Extension of elevator facilities

In 1945, other than for the few elevators in Area 7 and in the upland parts of Areas 8 and 9 not immediately adjacent to the rivers, there were elevators only in Areas 5 and 6 and in the river-bottom sections of Areas 8 and 9. With grain production increasing since that time, about 50 new grain elevator firms have been established, about 35 of them in communities that formerly had none.

In addition to these new firms, other firms, particularly seed houses and flour mills, broadened or shifted their services to include the purchasing and shipping of bulk grain. In Area 7b, for example, eight redtop seed houses added grain elevators to their operations as local farming shifted from redtop meadow to corn and soybeans.

Though seed dealers were able to shift from seed to grain merchandising without much difficulty, flour millers had considerable difficulty shifting from a manufacturing to a grain merchandising and service operation. Of the 35 small local flour mills in southern Illinois in 1953, only 9 were milling flour or cornmeal (five at a very small percentage of capacity) and 4 had been converted to feed manufacturing. Eighteen of the 22 remaining mills were operating as elevators, but only three had been modernized for more efficient handling of grain.

### Two new types of grain-merchandising operations

The availability of barge transportation at St. Louis created a demand for truck corn in that market (see page 18), which affected the

local grain-buying agencies and facilities. As a result, two new types of grain-merchandising operations appeared to be emerging in southern Illinois. The first type was a truck operation independent of local elevator facilities. The trucker operated a sheller and hauled directly from the farm to the terminal elevator. His bid to the farmer was a few cents less than that of the local elevator, but the net returns to the farmer were probably greater because he did not have to bear the costs of shelling and hauling and received the benefit of any overrun on shelling.

The second and more numerous type of grain-merchandising operation was a small local elevator having trucks with which to ship a considerable portion of the grain it purchased. Usually much of the corn bought by such elevators was shelled into their trucks for direct shipment from farms to terminal elevators. Grain-merchandising operations of this type can provide more services to farmers than those of the first type. When such an elevator is operated, however, more capital is required and expenses are higher.

## Increasing truck-barge operations

Truck-barge operations were increasing on the Ohio river, though in 1953 only two country elevators, one at Evansville, Indiana, the other at Shawneetown, Illinois, shipped via that river. No terminal elevators for barge shipments were available for grain assembled by other elevators in the region.

Truck-barge operations on the Ohio, as well as on the Mississippi river (with St. Louis as the barge terminal), should continue to increase as grain production in southern Illinois increases. Except for Clark, Clay, Cumberland, Effingham, and Shelby counties, the entire region is within 75 miles by highway of either St. Louis or the two points on the Ohio river, Evansville and Shawneetown, so it should be practical to truck corn to barges from almost any point in southern Illinois.

If truck-barge movement of grain continues to increase, lower net transportation costs can be expected. Part of these lower costs would go to farmers as higher bids and part would accrue as profits to grain dealers who adapt successfully to this new method of transportation.

## Merchant trucking of corn

While merchant trucking of corn in 1952 and 1953 was important, its effect on local operations was much less than that of elevator trucking to St. Louis. To the extent that merchant truckers performed

the transportation and change-of-ownership functions more cheaply than competing agencies, farmers in the region received a higher price for their corn. There will probably continue to be some marginal backhauling of corn in connection with more expensive products. Further growth of merchant trucking depends on the demand for corn in the South and Southeast and the price of competing transportation. Other than for providing a wider market for southern Illinois corn, it seems unlikely that merchant trucking will be responsible for any fundamental change in the grain-marketing system.

## SUMMARY

The grain trade in 42 southern Illinois counties was studied in 1952 and 1953. The 155 responses to a questionnaire sent to 210 known southern Illinois elevator firms were stratified according to type-of-farming areas and grain storage capacity, and a final sample of 89 elevator firms and 2 trucking firms was selected and interviewed to estimate the average characteristics of the 210 elevator firms in the region. From this study the following conclusions were drawn:

**1.** Grain production has risen rapidly in recent years, increasing from an annual average of about 60 million bushels in the 1930's to about 130 million bushels in 1950-1952. Though estimated grain sales during the same period have also increased, from 20 million bushels to 70 million bushels, sales per acre of farmland have remained low compared with those of east-central Illinois.

**2.** The median volume of grain handled by the 210 elevator firms operating in southern Illinois was 276,000 bushels in 1952 and 228,000 bushels in 1953 — considerably less than that handled by central and northern Illinois elevators. In some communities, the volume was too small to justify the cost of installing larger grain-handling equipment for faster service.

**3.** Country elevator firms had an average of 12,071,000 bushels of storage space in 1952-1953. Of this space, about 5 million bushels was licensed for storage, only about 1,500,000 of which was used by farmers in either year. Commercial storage space for price-support wheat was inadequate during 1952-1953, but storage for soybeans was more than sufficient.

**4.** The pattern of grain purchases by southern Illinois elevators was considerably more seasonal than that for the state as a whole.

**5.** The most important market for southern Illinois wheat and corn in 1952 and 1953 was St. Louis. For southern Illinois soybeans

during that period, Decatur and other central Illinois processors represented the chief market.

**6.** During 1952 and 1953 railroads hauled the largest share of the wheat and soybeans, as well as about half of the corn. Railroads did not extend to soybeans the favorable export rates that they had extended to corn and wheat going to Gulf ports. Truck transportation of all grains to St. Louis appeared to be increasing rapidly.

**7.** Elevator margins were wider in southern Illinois than in central Illinois, and tended to increase from north to south in the region. These margins did not appear unreasonable, considering the seasonal nature of grain receipts and the need to build up facilities. Grading was usually done very loosely.

**8.** About 50 new firms were established in the region during the period 1945-1953, and other firms such as seed houses added elevator service to their operations, which brought elevator service within 10 miles of most southern Illinois farmers by 1953.

**9.** The increasing use of barge transportation made it possible to truck a large volume of grain to St. Louis. As a result, a new type of firm consisting of a small elevator with trucks for shipping grain began to develop in southern Illinois. Another new type of operation that appeared to be emerging consisted of a trucker who bought grain but who was independent of local elevator facilities.

6M—10-55—58699

UNIVERSITY OF ILLINOIS-URBANA
3 0112 054440943